

*Southern California Renal Disease Council, Inc.
ESRD Network 18*

TSAT PROJECT

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TSAT

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Why are we having this WebEx?

- To support Anemia reduction through the use of Iron Therapy.
- New information since KDOQI established guidelines as outlined in the “DRIVE” study.
- Assist in putting together a rapid cycle improvement project.

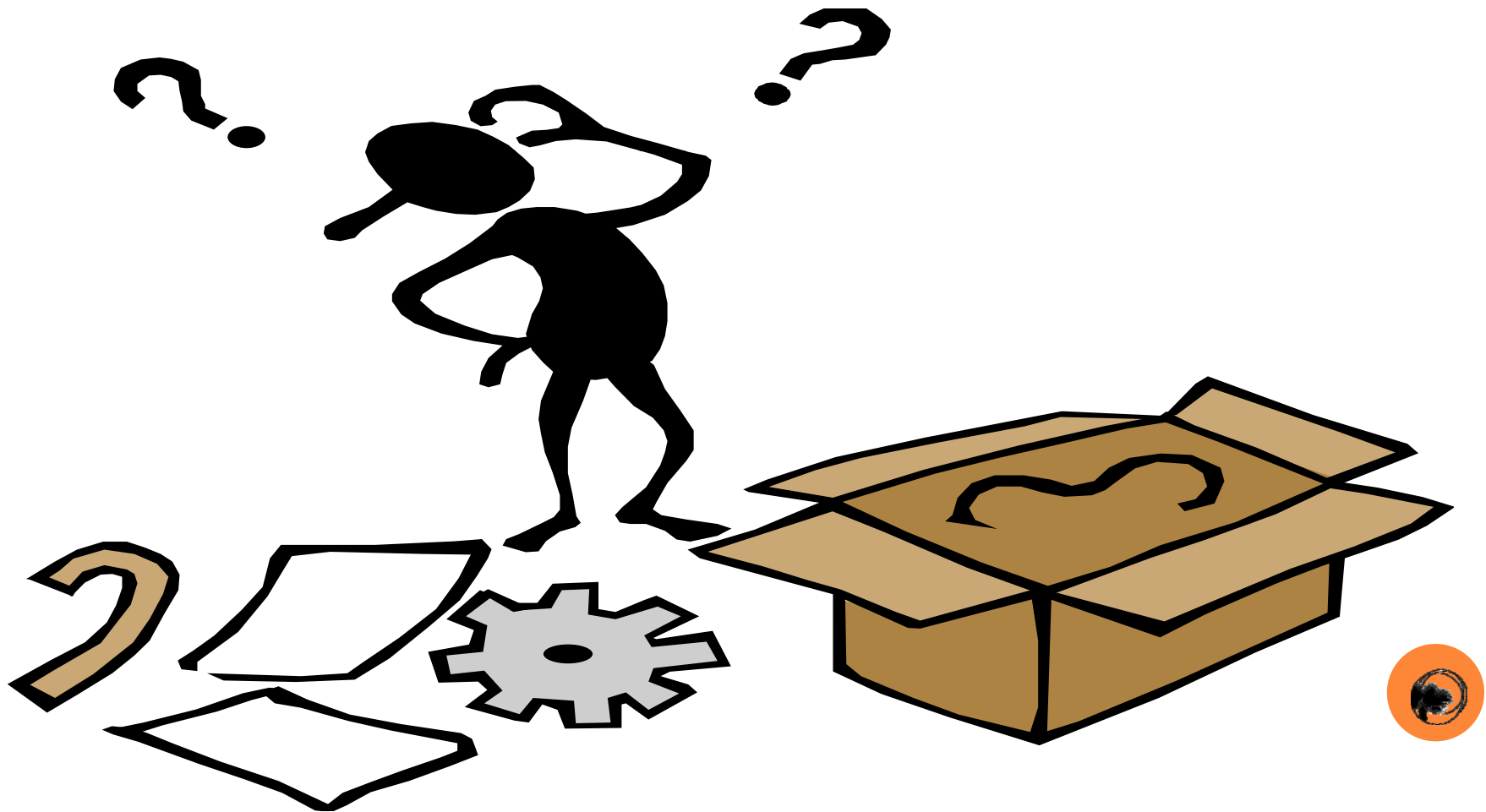


Objectives

- To provide you with a basic understanding of Rapid Cycle Improvement.
- How to complete a Quality Assessment Performance Improvement (QAPI) plan.
- Understanding the Plan Do Study Act (PDSA) process.
- Conduct a Root Cause Analysis.
- Review your Anemia program.
- Apply the above to your TSAT project to continuously improve TSAT levels.



Continuous Quality Improvement (CQI)



Quality Improvement Process

Root Cause Analysis Investigations:

- RCA usually uncovers a system of root causes.
- RCA uncovers specific causes and effects.
- RCA results in executable, quantifiable solutions that may be monitored.



Quality Improvement Process ***(continued)***

Root Cause Analysis Investigations: (continued)

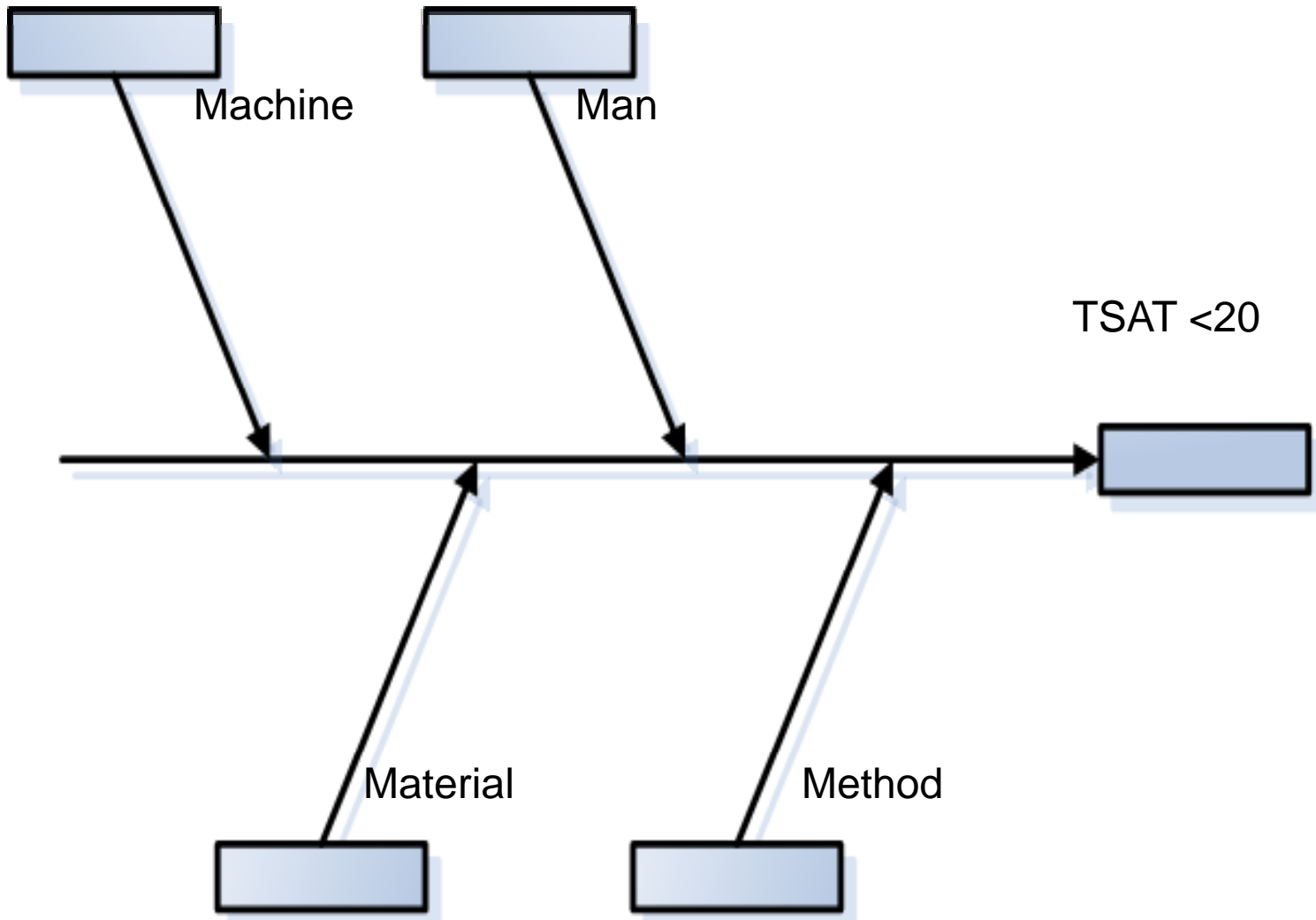
- RCA does not point blame at any one person or group, but simply identifies a system of causes and effects that lead to and incident.
- RCA focuses on past events.



Quality Improvement Process ***(continued)***

- Root cause analysis can use a variety of techniques to uncover root causes, including cause mapping, change analysis, the [Ishikawa fishbone diagram](#), [5 Whys](#), and others.
- All are designed to analyze the elements affecting a particular outcome to determine the root causes.





What do I do first?

- Root Cause Analysis using
 - Ischikawa and/or the 5 why?
 - Flow chart the process
- Identify the problem
 - Areas of decreased productivity, areas where errors occur etc...
- Create a problem statement
 - The root of the problem
 - The AIM statement should follow outlining the goal of the project.
- Start the PDSA cycle



Quality Assessment and Performance Improvement Plan (QAPI)

○ Interdisciplinary Team: (minimum)

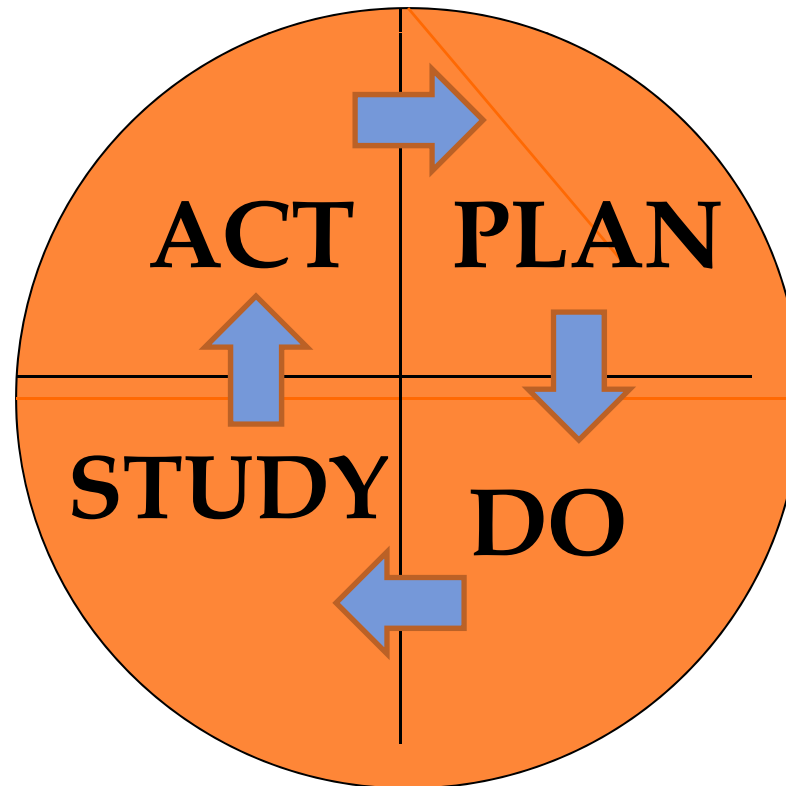
- Physician
- Registered nurse
- Social Worker
- Dietitian



PDSA Cycle

Plan-Do-Study-Act:

PDSA is the format the Network uses for developing a QAPI plan.



Quality Assessment and Performance Improvement (QAPI) Plan

Cycle (Dates of the project):

<p>Adopted from IHI Website, June 2007</p>	<p>Project:</p> <p>TEAM: Facility Name & Provider # (List all members)</p> <p>BACKGROUND: (Summary of facility’s identified problem and description of what the facility has been doing to improve the problem in the past – root cause analysis (RCA) will assist with finding out where the problem(s) are.)</p>
<p>Step 1. PLAN: Plan/develop the test.</p>	<p>Problem Statement: (Statement outlining the root cause)</p> <p>AIM Statement: (Statement designed to guide you to your goal.)</p> <p>What is the goal? (Include a numeric goal to achieve.)</p> <p>Develop a plan to achieve the goal? (List steps of the plan – this will allow you to identify the step that may need modifying/revising if necessary.) Add more paper if necessary.</p> <p>What data sources are needed for the test? (What data sources will you be using to monitor your progress?)</p> <p>What measures are used to analyze if you are achieving the goal? Baseline: _____</p> <p>Measure: (Numerical formula – i.e. numerator/denominator = %)</p> <p>Monitoring frequency:</p>



<p>Step 2. <u>DO:</u> Try out the test on a</p>	<p>Implement the plan. <u>Document problems and unexpected observations.</u></p>
<p>Step 3. <u>STUDY:</u></p>	<p>Analyze the results and compare the results with your goal.</p>
<p>Step 4. <u>ACT:</u> Determine if the test was successful or the plan needs to be revised.</p>	<p>If the test was successful, how will you implement the plan on a wider scale?</p> <p>If it was not successful, what needs to be changed based on what you have learned? Should you continue to search for other root causes?</p>



What is Iron Deficient Anemia

- The most common Anemia. (Over 100 different types).
- Insufficient Iron.
- Inadequate amounts of iron to meet your body demands.
- Vitamin C aids in Iron absorption.
- Slow development of Anemia (Stored Iron is depleted)
- Anemia affects about 3.5 million Americans, making it the most common blood disorder in the U.S.



When does Anemia begin?

- Do you still have 20-50% of your normal kidney function.
- End stage occurs when approximately 10% of normal kidney function is remaining.
- Fact: Almost everyone with End Stage Renal Disease has Anemia.
- CBC will test for it.
- The hemoglobin is usually about one-third the value of the hematocrit.



Anemia Management Protocol Fundamentals

- **Facility Management**
 - Identify one person who will coordinate anemia management
 - Develop an anemia management plan/protocol
 - Ensure entire care team is aware of protocol
 - Evaluate patient anemia outcomes, and make changes to plan/protocol as necessary



Iron Management

- Define parameters for iron deficiency and iron overload.
- Identify parameters for starting iron.
- Develop procedure for managing adverse reactions.
- Dose iron by amount required to replace losses.
- Define ceiling levels for iron parameters beyond which iron therapy should be held.



Ongoing Assessment

- Determine parameters (hemoglobin [hematocrit], ferritin, transferrin saturation, TIBC, etc) that require tracking.
- Once a protocol is in place, monitor the protocol to ensure that it is being followed.
- Monitor outcomes



Documentation

- Protocol signed by MD

All dose changes signed by physician in MD orders .

- Initial anemia assessment; progress note

For patients with Hb (Hct) >12 g/dL (36%):

- –for the majority of patients, titration efforts (or held-dose, if necessary) are aimed at maintaining Hb (Hct) 11 to 12 g/dL (33% to 36%)
- –when dictated by patient need, medical justification by MD, to maintain a higher Hb range



KDOQI Recommended Levels

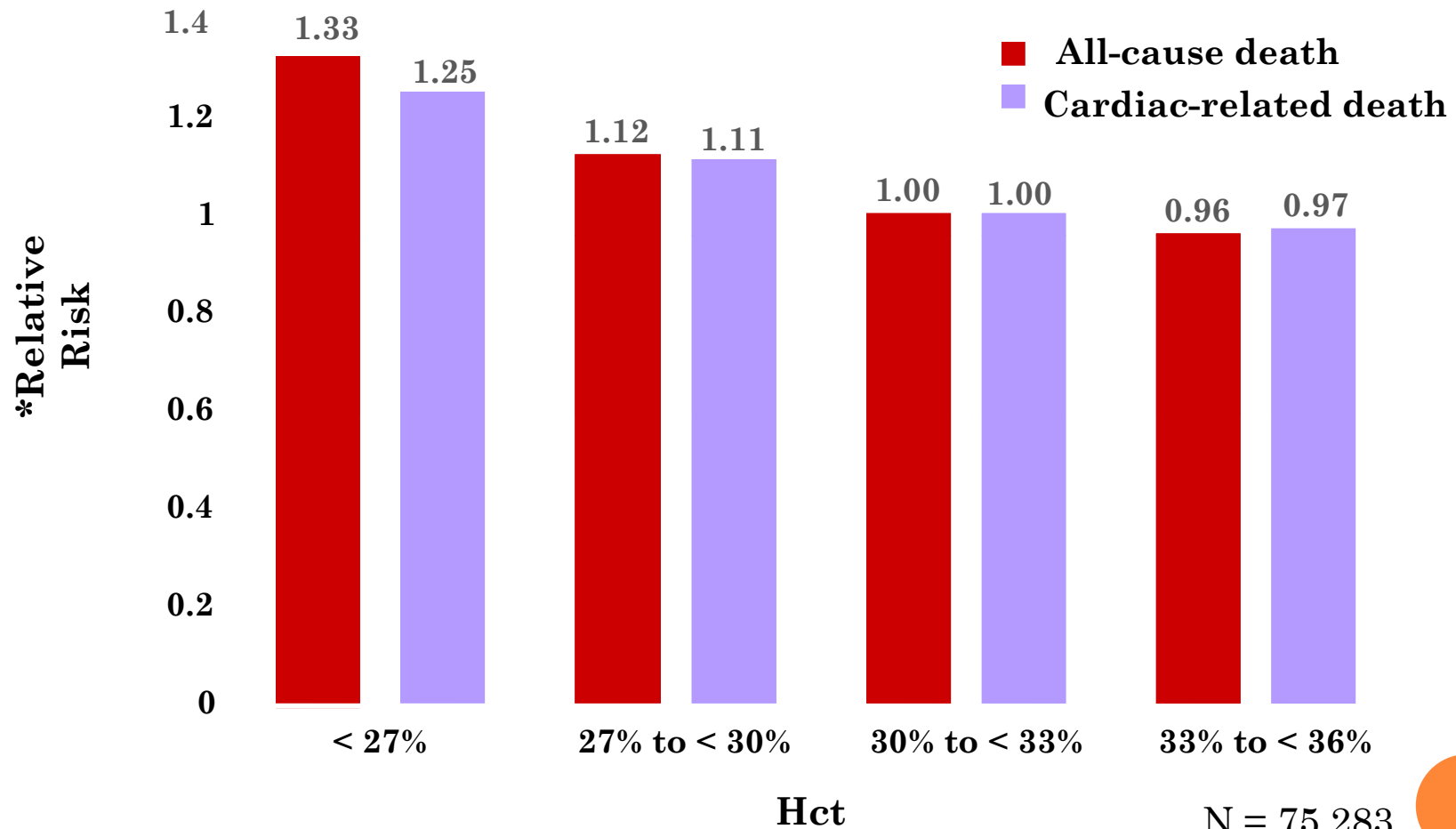
- •Iron status should be monitored by TSAT and serum ferritin levels.
- •Iron should be administered to maintain TSAT level $\geq 20\%$ and serum ferritin ≥ 100 ng/mL.

	<u>TSAT</u>		<u>Serum Ferritin</u>
Minimum level	20%	and/or	100 ng/mL
Ceiling level	50%	and/or	800 ng/mL

****Based on the recent “DRIVE” study and other expert Nephrologists administer Iron with ferritin levels as high as 1200ng/mL.**



HCT and Mortality in D-CKD



*After adjustment for medical diseases.

Ma et al. *J Am Soc Nephrol.* 1999;10:610-619.

TSAT (Transferrin Saturation) Project Collection Form

Facility Name: _____

Medicare Provider #: _____

Person completing form: _____

Date: _____

1. Percentage of patients with TSAT \geq 20%
(Please complete the information below for the month(s) the TSAT/Ferritin level was drawn.)

Date drawn: _____ (between July 1, 2010 – September 30, 2010.)

Patient census: _____

TSAT \geq 20%

Total # of patients: _____

of patients with TSAT \geq 20%: _____

of patients with labs drawn: _____

% of patients with TSAT \geq 20%: _____

For patients with TSAT < 20%, please complete the following information:

Total # of patients with TSAT < 20%: _____

of patients with TSAT < 20% and Ferritin > 500 ng/ml: _____

of patients with TSAT < 20% and Ferritin > 800 ng/ml: _____

of patients with TSAT < 20% and Ferritin > 1200 ng/ml: _____

Note: (There is controversy however, some Nephrology experts would not hesitate to give iron to patients with ferritin as high as 1200 ng.ml.)

of patients **Not** receiving erythropoietin: _____

of patients with TSAT \leq 20% and who received iron therapy after the blood tests results were available: _____

2. Iron medication:

Name of iron medication administered at facility (list all that apply):	Number of patients with hypersensitivity reactions to the iron medication listed:
1.	
2.	
3.	

3. Reason(s) for not meeting Network TSAT average of 86.4% of patients with TSAT \geq 20% for the month(s) listed above
(Please do not list patient names - generalize reason(s)):

4. Reason(s) for not meeting Network Ferritin average of 57.6% of patients with Ferritin \geq 200 (HD) for the month(s) listed above
(Please do not list patient names - generalize reason(s)):

*Please fax form to Network 18 at
 (323) 962-2891*

References

- Michelle J Irving, Jonathan C Craig, Martin Gallagher, Stephen McDonald, Kevan R Polkinghorne, Rowan G Walker and Simon D Roger. “Implementing iron management clinical practice guidelines in patients with chronic kidney disease having dialysis”.
- Ma et al. *J Am Soc Nephrol*. 1999;10:610-619
- Kalantar-Zadeh K, Don BR, Rodriguez RA, Humphreys MH: Serum ferritin is a marker of iron-binding capacity-estimated transferrin correlates with the nutritional subjective global assessment in hemodialysis patients. *Am J Kidney Dis* 31:263-272, 1998



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